REMARKS

Claims 1-12 are pending, claim 1 being the sole independent claim.

There are no formal matters outstanding.

Claims 1-2, 4-5, 7-8, and 10-11 stand rejected as obvious over KAGOHASHI et al. 6,168,752 in view of KOMAGATA et al. 5,714,238.

Claims 3, 6, 9, and 12 stand rejected as obvious over KAGOHASHI et al. in view of KOMAGATA et al., and further in view of IRI et al. 5,272,223.

Applicants have carefully studied these references and believe that the pending obviousness rejections are not viable. Accordingly, for the below-noted reasons, reconsideration and allowance of all the pending claims are respectfully requested.

As acknowledged by the Official Action in paragraph 2 of page 2, KAGOHASHI et al. does not disclose that nickel powders are surface-modified with a phosphate compound, a phosphite compound, or a hydrophosphite compound.

For this missing aspect of the recited invention, the Official Action offered KOMAGATA et al. which is said to disclose "a conductive adhesive (paste) which comprises metal particles made from nickel or nickel-boron alloy and surface treated with a polyalkylene phosphate compound or a derivative thereof

(abstract). Examples of polyalkylene phosphate derivatives include phosphoric acids (col. 4, lines 1-5)."

Indeed, KOMAGATA et al. discloses a conductive adhesive which comprises conductive particles having a surface of at least one selected from nickel and nickel-boron alloy, and a surface of which has been subjected to surface treatment with a mixture of polyoxyalkylene phosphate compound and a polyoxyalkylenealkyl or polyoxyalkylenealkenyl amine or a derivate thereof.

The Official Action stated that one skilled in the art would have found it obvious to use the surface-treated nickel particles of KOMAGATA et al. in the internal electrodes of multi-layer ceramic capacitors, as disclosed by KAGOHASHI et al. The Official Action stated that the motivation for doing so would have been to optimize the adhesive strength, the capacitance, and the dielectric loss tangent of the internal electrode as per KOMAGATA et al., column 11, lines 20-25.

Applicants believe that the Official Action misunderstands the offered passage of KOMAGATA et al. Reference is made to column 1, lines 6-9; column 1, lines 46-56; column 2, lines 16-19; column 7, lines 41-44; column 7, lines 45-49; and column 7, lines 53-57 of this reference. In each of these passages, it is made clear that the conductive adhesive is used to adhere a semiconductor element, chip parts or discrete parts to a printed circuit board without causing electromigration.

The relied upon passage of KOMAGATA et al. discloses only that "when the conductive adhesives ... are used, circuits can be formed by conjugating electronic parts with the same adhesion strength as that of the solder. Also, there is no bad effect on the capacitance or dielectric loss tangent of the condenser." The only teaching is that there is no adverse effect on the capacitance or dielectric loss tangent of the condenser.

The teaching of the reference is to a conductive adhesive, more specifically a conductive adhesive which can adhere a semiconductor element, chip parts or discrete parts to a printed wiring board without causing electromigration (column 1, lines 6-9).

Again, at line 46, "the present invention is ... a conductive adhesive which can adhere a semiconductor element, chip parts or discrete parts to a printed wiring board; contains no harmful metal such as lead which becomes causes of pollution when it is disposed; uses a low cost and easily available metal as compared with noble metals such as gold and palladium; causes no migration of metals; contains no solvent or a little amount of solvent; and shows less change in resistance and stable conductivity even when it is allowed to under high temperature conditions after formation of a circuit."

At column 2, lines 16-19, "the circuit of the present invention comprises a semiconductor element, chip parts, discrete

parts or a combination thereof being adhered onto a wiring board by using the conductive adhesive as mentioned above."

The reference only teaches by "using the conductive adhesive of the present invention, a circuit in which at least one kind of a semiconductor element, chip part and discrete part is conjugated can be formed on the substrate surface." Column 7, lines 41-44, and the remainder of this column: "The conductive adhesive of the present invention is excellent in flowability, capable of printing or coating onto a circuit substrate easily, causes no migration even when a voltage is applied, and less changes in resistance when it is used at high temperature. Also, it is advantageous in the points of economy and safety since it can be easily available, uses metal particles which do not cause pollution and does not use any organic solvent or uses less amount thereof.

"The conductive adhesive of the present invention is extremely available for conjunction or practical application of a semiconductor or electronic parts using the above advantages and formation of a microelectronic circuit can be advantageously carried out by using the same."

In summary, these passages taken together with column 11, lines 20-25 only teach an adhesive for adhering a semiconductor element, chip parts, or discrete parts to a printed

wiring board without causing electromigration and without bad effect.

Indeed, consider the relied-upon passage in context by starting with column 8, lines 17-26:

"(3) Capacitance, dielectric loss tangent and adhesion strength of condenser

"A laminated chip condenser with a size of 20125 with a nominal 1,000 pF was adhered to a copper-laminated glass-epoxy substrate by using a conductive adhesive, and the adhesive was cured by heating. As for the thus prepared chip condenser, a capacitance and dielectric loss tangent were measured by using a LCR meter. Further, by pricking it from the side portion to measure the strength necessary for peeling the chip condenser."

Column 11, lines 20-25 summarizes these measurements by: "As clearly seen from Table 2, when the conductive adhesives of the present invention are used, circuits can be formed by conjugating electronic parts with the same adhesion strength as that of the solder. Also, there is no bad effect on the capacitance or dielectric loss tangent of the condenser."

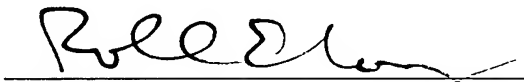
The benefit taught by the reference is to conjugate electronic parts with a printed wiring board without causing electromigration or other bad effects. There is no teaching to "optimize the capacitance, and the dielectric loss tangent of the internal electrode" as presented by the Official Action.

Accordingly, there is no motivation to modify KAGOHASHI et al. as suggested by the Official Action. Reconsideration and allowance of all the pending claims are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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